

Editorial: First DATEs

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Readers of the DATE journal who also engage with *LinkedIn* may have noticed that the Design and Technology Association, sponsors of *Design and Technology Education: An International Journal*, have just launched a new visual brand across all aspects of their media, including our journal. As editors, we have worked with them to create the new look, most notably the front cover. This re-branding exercise stimulated an interest to look back at previous ‘brands’ of the journal. This took us back to the Journal’s provenance, starting in 1967. The starting point was a journal initially titled *Studies in Education and Craft*, renamed in 1970 as *Studies in Design Education Craft & Technology*, founded by the late John Eggleston who was also the editor of this journal and the one that it transformed into - *Design and Technology Teaching*. The first journal was ground breaking in its scope:

The journal is designed to focus attention on developments in the whole field of design and craft education ranging from art through the crafts to applied science and technology. It pays particular attention to case studies of new approaches in schools and colleges written by the teachers and tutors undertaking them. A selection of the growing number of important researchers and studies in design education is an important feature of the journal as is the review of all important new literature.

The initial cover design was very much of its era – somewhat minimalist. But the cover of the much later edition in 1988 hints at the shift that occurred in 1990 when the journal was reformulated as *Design and Technology Teaching* that focused on research, teaching and resources, as can be seen in Figure 1, with apologies for the image quality.



Figure 1 Covers of *Studies in Design Education Craft & Technology* Vol 3.1 1970 & Vol 21.1 1988 and *Design and Technology Teaching* Vol 25.1 1992

The newly formulated journal was launched at the same time as the new English and Welsh National Curriculum and included articles very much focused on this major shift, again illustrated by the cover image showing learners collaborating on a design project. Interestingly, in John Eggleston's initial editorial he also highlighted the launch of a new journal where the focus was explicitly on research – what is now the Springer *International Journal of Technology and Design Education*.

1995 saw yet another change in title, focus and brand for the journal, which was explicitly divided into three sections: Research, Curriculum Development and Reviews. John Eggleston indicated that through the increased focus on research that the journal was “returning to its roots as once again we turn to the search for sound knowledge and firm foundations rather than political rhetoric to guide our development of Design and Technology Education”. With the shift came new branding that headlined the tripartite sections, shown in Figure 2, and also a new Editor as Richard Kimbell took over the reins. Also, to mark the shift to greater research focus the journal started in 1996 with a new ISSN and newly numbered as Volume 1. Ten years further on the journal was transformed again, marking its increased international research and making the major focus on research. The shift came with a new title, *Design and Technology Education: An International Journal*, a new Editor as Eddie Norman took up the baton, and new branding indicating the international nature. Now fully established as an international research journal, and in line with the rebranding of the journal's sponsor, we are launching a new visual identity – which could be seen as coming full circle as the journal's new cover is the closest to a minimalist approach that has been used since 1970, as shown in Figure 1. Serendipitously, even the pink will return for future Special Issues!



Figure 2 *Journal of Design & Technology Education Vol 1.3 1996, Design and Technology Education: An International Journal, Vol 27.2 2022 and Design and Technology Education: An International Journal, Vol 27.3 2022*

But throughout all of the iterations of the journal, the broad view of what John Eggleston highlighted in 1970 as the focus on research across “*the whole field of design education, ranging from art through crafts to applied science and technology*” remains as the continuous thread – as is illustrated by the articles in this latest issue.

In this issue of the journal we present four research articles, the first one of which focuses on higher education and the pedagogic and technical challenges of teaching and delivering online global collaborative courses, and the subsequent three articles from Norway, Sweden and Finland focus on secondary school education and the development and application of skills in design technology subjects.

In *Online Course Design Using Iterative Workshops on Computer-Supported Collaborative Design for Engineering Design Students*, Ross Brisco, Robert Ian Whitfield, and Hilary Grierson of University of Strathclyde, UK discuss the issues surrounding collaborative global design classes, specifically concerns around the skills that are required to ensure success in participation of online courses. The recent rapid growth of online courses in design and engineering such as *Global Design Projects* and *Global Design Studio* has exposed many students to this new form of learning for the first time. By observing students participating in global design classes at 2 UK universities they found that these classes were often selected by students without consideration of their suitability for this unique form of learning. The authors discuss the pedagogical and technical challenges of introducing these collaborative online activities across multiple locations. They went on to develop a short online course in computer-supported collaborative design over three years to bridge this skills gap with students self-diagnosing their skills requirements, with the authors then identifying which of these skills could be developed through educational interventions. This method could have wider applications for those developing courses in new or unfamiliar educational contexts and for those looking for students to perform a skills gap analysis to diagnose their own developmental needs. Although the research was conducted pre-Covid the results clearly identify the skills required to successfully participate in these challenging new forms of teaching, and help to inform those who are looking to implement an online collaborative element to their programmes of the technical and pedagogical challenges.

In *Developing spatial literacy through design of built environments: Art and crafts teachers' strategies* Ingri Strand and Eva Lutnæs of Oslo Metropolitan University, Norway, consider the challenges of the process of translating ideas for architecture and built environments into visual and physical representations, and how spatial literacy can be developed in pupils and students. Designing for the built environment has been a part of the new Norwegian national curriculum since 2020, with *Arts and Crafts* forming a key element of primary and lower secondary education in Norway. The authors explore the nature of spatial skills and how these can be developed through practical, hands-on activities in schools, going from abstract theories into concrete artefacts using 3D models. Embodied experience through full-size environments was utilised along with CAD visualisations, using points of reference, and connecting floor plans to standards and measurements. These methods helped pupils to use their own bodies and their own experiences of spatial relationships. Through a series of semi-structured interviews of secondary school teachers with varying degrees of experience, the authors identified key teaching strategies and through development of a visual model they hope to demonstrate to pupils their potential role in the process of designing built environments. They also provide examples of a wide range of tools and strategies for use when developing spatial awareness and spatial literacy in pupils. The authors hope that this research will contribute to the development of specialist vocabulary used in the teaching of 3D design and architecture and the built environment within schools, and perhaps help to create a greater appreciation of the

importance of spatial literacy and sensitivity to space in the built environment to the wider Norwegian population.

In Affordances of models and modelling: a study of four technology design projects in the Swedish secondary school, Björn Citrohn of Linnaeus University, Karin Stolpe, and Jonte Bernhard of Linköping University, Sweden and Maria Svensson of University of Gothenburg, Sweden, investigate through interviews with Swedish technology teachers how students use models to solve design problems in technology education, and how the process of 3D modelling in STEM subjects using trial and error helps make problems visible and relatable, and how it helps them take inspiration from the solutions of others. Although there is previous research on the use of models in teaching design, there is very little on affordances of models and modelling in design projects, especially in schools education. Engineering design is described by the Swedish National Agency for Education as *the designing part*, and *the production part*, with only *the designing part* performed in schools as part of the engineering design process. The authors discuss the challenges of pupils allowing the availability of modelling materials to dictate their designs and influence their models rather than explore their ideas through the modelling process. Encouraging pupils to explore the affordances of their models – the relationships between the objects, users and connections – will help them to understand the properties of their models and to explore the possibilities of their function and use. Four projects are studied – a bridge, optical telegraph, chair, and greenhouse, and these are used to explore the emerging themes of materials used, drawings as models, and processes of conceptual design. They conclude that the use of physical models enables students to see different solutions, and to find and explore limitations in these solutions, and they also highlight the benefits of exposing them to a wide range of different materials to use in their modelling processes. The benefits of trial and error and reflection in action, rather than simply unreflective doing, are highlighted as key benefits of this work in helping to develop variety and creativity in a design process.

In Development of Students' Technical Abilities between 1993-2022 in Finnish Comprehensive Schools, Ossi Autio of University of Helsinki, Finland aims to trace the development of technical abilities in affective, psychomotor and cognitive areas in Finnish school children over the last 30 years. Around 300 pupils were tested in 1993, 2002 and 2022 using the same test equipment and protocols. Although some girls' test groups showed some positive changes in affective areas, all test groups showed a reduction in psychomotor and cognitive areas. This may be due to the reduction in the availability of craft and technology lessons or due to wider changes in society, with pupils showing a tendency to favour aesthetic over technical issues in their work. While Handicraft is now taught to all Finnish pupils throughout their compulsory schooling since 2014, there is now only a minor emphasis on technology, with art and design and aesthetics taking priority over technology and function. These changes have been reflected in the education of craft teachers, with time split between different areas of expertise and subsequent loss of depth in either area. Although there is some discussion on how we can define and measure technical ability in a simple and reliable manner, it is clear from the results that there had been a sharp drop off in the technical knowledge and reasoning of pupils, with some distinct differences between girls and boys. The author discusses the ongoing debate in Finland as to how this should be addressed, and whether technology education should be materials driven and design process based or more theoretical classroom based, with a lack of clarity among some parties of the relationship between craft and technology. The author

concludes by saying that it is clear that although there have been many changes to Finnish craft and technology education in the last 30 years, the ideal solution has yet to be found.

Finally, in addition to the research articles we present a book review by Willem de Bruijn, Arts University Bournemouth, UK of the recently published *Progressive Studio Pedagogy: Examples from Architecture and Allied Design Fields* edited by Charlie Smith with contributions by Sean Burns, Magda Fourie-Malherbe, Gerhard Griesel, Charlie Smith, Andrew R. Tripp, Anika van Aswegen, and published by Routledge.